



City of Grand Island

Tuesday, June 26, 2018

Council Session

Item G-15

#2018-182 - Approving Change Orders #1 and #2 for the Gas Turbine #3 Modified Hot Gas Path Inspection at Burdick Station

Staff Contact: Tim Luchsinger, Stacy Nonhof

Council Agenda Memo

From: Timothy G. Luchsinger, Utilities Director
Stacy Nonhof, Assistant City Attorney

Meeting Date: June 26, 2018

Subject: Gas Turbine #3 Modified Hot Gas Path Inspection at
Burdick Generating Station - Change Orders 1 & 2

Presenter(s): Timothy G. Luchsinger, Utilities Director

Background

Gas Turbine #3 is located at the Burdick Generating Station. The unit was commissioned in 2003 and is used for electrical power generation, primarily operating as a peaking unit for the City.

A Borescope inspection performed in September of 2017 revealed that a compressor blade had come loose. An additional borescope inspection was done to find the liberated blade, but it was not located. Without knowing where the blade was located in the unit, it could move and cause further damage in the unit. A Modified Hot Gas Path Inspection contract was awarded to General Electric International Inc., of Omaha, Nebraska at the February 27, 2018 Council Meeting, in the amount of \$494,261.00. The Hot Gas Path inspection commenced on May 21, 2018.

Change Order #1

During the Hot Gas Path Inspection, a review of the Technical Information Letters (TILs) for the unit was conducted. The TILs are additional requirements that the Original Equipment Manufacturer has discovered and cause issues with the unit based on other units they have manufactured. There were several TILs that were needed to be completed while the Hot Gas Path inspection is being conducted. Several of the TILs required a specialist to inspect the turbine buckets and compressor blades. The labor rates to do additional work were included in the original contract and a firm time was established to complete the inspections and priced at \$23,600.00.

Change Order #2

The original contract had a total supplied parts list price needed to conduct the inspection of \$211,459.00. As the parts were being ordered, not all those listed in the contract were needed, which resulted in a reduction of the supplied parts. The reduction for the parts supplied is (\$40,731.17).

During the inspection, it was found that the shims on the stator vanes were the original design, and they that could come loose. The new design pins the shims to the base of the vanes. To do this work, additional labor is required to complete this and adjust the compressor vane. This labor was based on rates included in the original bid documents and was not included in the original scope of work, which added \$38,400.00.

While the fuel nozzles and combustion liners are removed, an inspection of the primary fuel nozzles and combustion liners and the refurbishment of the secondary fuel nozzles were needed. The inspection and refurbishment of the primary and secondary fuel nozzles added \$20,650.00.

The original contract had requested the recommended repair of the turbine support leg cooling jacket once the Turbine Engineer was able to inspect it. The inspection was completed, and it recommended removal and weld repair. Removal is required due to the location of the cooling water jacket which does not allow for a good weld to be performed. The additional work to make this repair is \$8,960.00.

Discussion

The Modified Hot Gas Path Inspection of GT3 Change Orders 1 & 2 required a net additional cost of \$50,878.83, for a final contract cost of \$545,139.83.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to future date
4. Take no action on the issue

Recommendation

City Administration recommends authorizing Change Orders #1 and #2 to the GT3 Modified Hot Gas Path Inspection at Burdick Generating Station for an addition to the contract price of \$50,878.83, to General Electric International, Inc., of Omaha, Nebraska.

Sample Motion

Move to approve Change Orders #1 and #2 with General Electric International, Inc., in the amount of \$50,878.83 for the GT3 Modified Hot Gas Path Inspection at Burdick Generating Station.



**INTEROFFICE
MEMORANDUM**

*Working Together for a
Better Tomorrow. Today.*

TO: General Electric International, Inc.
11640 Arbor Street, Suite 200
Omaha, NE 68144
John Kottmann

Contract: 2018-51

PROJECT: Gas Turbine #3 Modified Hot Gas Path Inspection

You are hereby directed to make the following change in your contract:

1 Additional payment per the attached spreadsheet.

ADD: \$50,878.83

The original Contract Sum	<u>\$ 494,261.00</u>
Previous Change Order Amounts	<u>\$ -</u>
The Contract Sum is increased by this Change Order	<u>\$ 50,878.83</u>
The Contract Sum is decreased by this Change Order	<u>\$</u>
The total modified Contract Sum to date	<u>\$ 545,139.83</u>

Approval and acceptance of this Change Order acknowledges understanding and agreement that the cost and time adjustments included represent the complete values arising out of and/or incidental to the work described therein.

APPROVED: CITY OF GRAND ISLAND

By: _____

Date _____

Attest: _____

Approved as to Form, City Attorney

ACCEPTED: General Electric International, Inc.

By: 

Date 6/18/2018

Gas Turbine #3 Modified Hot Gas Path Inspection at Burdick Generating Station

Comments: Additional work required due to inspection process

Contractor: General Electric International, Inc.

\$494,261.00

<u>Change Order Request</u>	<u>Description</u>	<u>Amount</u>
001	Change Order #1: TIL review requirements	\$ 23,600.00
002		
003	Change Order #2: Reduction in supplied parts needed	\$ (40,731.17)
004	Labor to adjust compressor vane	\$ 38,400.00
005	Inspection and refurbishment of primary/secondary fuel nozzles	\$ 20,650.00
006	Repair of turbine support leg cooling jacket	\$ 8,960.00
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	Total	\$ 50,878.83

RESOLUTION 2018-182

WHEREAS, at the February 27, 2018 Council meeting, Council awarded the contract for Gas Turbine #3 Modified Hot Gas Path Inspection at Burdick Station to General Electric International, Inc., of Omaha, Nebraska, in the amount of \$494,261.00; and

WHEREAS, during the Hot Gas Path Inspection, a review of the Technical Information Letters (TILs) for the unit was conducted and it was discovered that several additional issues needed to be completed while the Hot Gas Path Inspection was being done; and

WHEREAS, several of the TILs required a specialist to inspect the turbine buckets and compressor blades and the labor rates to do additional work were included in the original contract and a firm time was established to complete the inspections and priced at an additional cost of \$23,600.00 (Change Order #1); and

WHEREAS, as a result of the inspection, it was found that all of the parts ordered were not needed, which resulted in a reduction to the cost of the parts in the amount \$40,731.17; and

WHEREAS, during the inspection it was found that the shims on the stator vanes could come loose, and additional labor would be required to pin the shims to the base of the vanes, resulting in an addition of \$38,400.00 to the contract; and

WHEREAS; when the fuel nozzles and combustion liners were removed, an inspection of the primary fuel nozzles and combustion liners and the refurbishment of the secondary fuel nozzles was needed, for an additional cost of \$20,650.00; and

WHEREAS; the original contract has requested the recommended repair of the turbine support leg cooling jacket after inspection. The inspection was completed, and removal and weld repair were recommended. The addition work to make this repair was \$8,960.00; and

WHEREAS; Change Order #2 was prepared for an additional cost of \$27,278.83; and

WHEREAS; Change Order #1 in the amount of \$23,600; and Change Order #2 in the amount of \$27,278.83 were prepared for an additional cost of \$50,878.83, resulting in a final contract amount of \$545,139.83.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that Change Order #1 in the amount of \$23,600.00 and Change Order #2 in the amount of \$27,278.83, for the Gas Turbine #3 Modified Hot Gas Path Inspection at Burdick Station are approved, and the Mayor is hereby authorized to sign the Change Order on behalf of the City of Grand Island.

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Approved as to Form	by _____
June 22, 2018	City Attorney

Adopted by the City Council of the City of Grand Island, Nebraska, June 26, 2018.

Jeremy L. Jensen, Mayor

Attest:

RaNae Edwards, City Clerk